



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,499	01/22/2002	Jin-Yuan Lee	JCLA8534	7456
23900	7590	10/12/2005	EXAMINER	
J C PATENTS, INC. 4 VENTURE, SUITE 250 IRVINE, CA 92618			THAI, LUAN C	
			ART UNIT	PAPER NUMBER
			2891	
DATE MAILED: 10/12/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

2K

Office Action Summary	Application No. 10/055,499	Applicant(s) LEE ET AL.	
	Examiner Luan Thai	Art Unit 2891	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2005.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 281-286 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 281-286 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 22 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received:
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office action is responsive to the amendment filed August 10, 2005.

Newly added claims **281-286** are pending in this application.

Claims **1-280** have been cancelled.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitations “a metal layer over said top surface and extending *to a place not over said die*” in claim 283 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered..

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim **283** is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification, as originally filed, does not disclose that “a metal layer over said top surface and *extending to a place not over said die*”, as recited in claim 283.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2891

4. Claim 283 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 283, the recitation "a metal layer over said top surface and *extending to a place not over said die*" is unclear as to how "*a place not over the die*" being defined. Also, see objections to drawings above.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 281 is rejected under 35 U.S.C. 102(b) as being anticipated by Sakurai (6,078,104) and by Kim et al. (6,004,867 of record) separately.

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Regarding 281, Sakurai (see specifically figures 1-3, Col. 3, line 27 to Col. 7, line 25) disclose a method for fabricating an electronic component comprising: joining a die (1) and a substrate (5), wherein the die (1) has a top surface at a horizontal level; and after the joining the die and the substrate, depositing a bump (6) over the horizontal level, wherein the bump (6) comprises gold.

Regarding 281, Kim et al (see specifically figures 1-5, Col. 2, line 54 to Col. 7, line 22) disclose a method for fabricating an electronic component comprising: joining a die (1) and a substrate (5), wherein the die (1) has a top surface at a horizontal level; and after the joining the die and the substrate, depositing a bump (6) over the horizontal level, wherein the bump (6) comprises gold.

7. Claim 283 is rejected under 35 U.S.C. 102(b) as being anticipated by Eichelberger (5,841,193).

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Regarding claims 9, 12, and 14, Eichelberger (see specifically figure 6) disclose a method for fabricating an electronic component, comprising: providing a die (102) having a top surface at a horizontal level; depositing a metal layer (110) (see figures 4-5) over the top surface and extending to a place not over the die (102); and depositing a passive device (220) over the horizontal level.

8. Claim 286 is rejected under 35 U.S.C. 102(e) as being anticipated by Akagawa (6,590,291).

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Regarding claim 286, Akagawa (see specifically figures 2-5) discloses a method for fabricating an electronic component, comprising: providing a substrate (21/61) comprising an organic material (Col. 6, lines 36+, and Col. 9, lines 19+); joining multiple dies (40/70) with the substrate; depositing a metal layer (28/29/64) over the multiple dies, wherein the depositing the metal layer comprises electroplating (Col. 9, lines 59+); and cutting the substrate (see figures 3C (Col. 7, lines 59+ and 5F, Col. 10, lines 56+).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 282 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cole et al. (5,745,984) in combination with Casey et al. (5,854,001).

Regarding claim 282, Cole et al. disclose a method for fabricating an electronic component, comprising: providing a die (12) having a top surface at a horizontal level; depositing an insulation layer (24) of polyetherimide over said horizontal level, and depositing a metal layer (22) over said horizontal level. Cole et al. do not explicitly teach the polymer comprising a porous structure.

Casey et al. teach the polyetherimide may be considered to have a porous structure (Col. 6, lines 46+). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to recognize that the insulation layer (24) of polyetherimide disclosed by Cole et al. can be considered to have a porous structure as taught by Casey et al.

11. Claims 284-285 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saia et al. (5,874,770).

Regarding claims 284-285, Saia et al. disclose (see specifically figures 11-12, Col. 3, line 59 to Col. 8, line 24) a method for fabricating an electronic component comprising: providing a die (44) having a top surface at a horizontal level; and depositing

a passive device (e.g., 28/33/37) over the horizontal level. Saia et al. do not explicitly teach the passive device comprising: a waveguide (as recited in claim 284) or a MEMS (as recited in claim 285).

Applicant's claimed structures in claims 284-285, do not distinguish over the Saia et al. reference and it has been held that a recitation (e.g., a waveguide or a MEMS) with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Therefore, it would have been obvious to one of ordinary skill in the art to have Saia's device structure to include active and passive components comprising at least a waveguide or a MEMS as claimed, since such employed components do not differentiate the claimed apparatus from Saia's device structure.

12. The following reference(s) is/are cited as of interest to this application:

U.S. Pat. No. 6,486,535 of record (Col. 5, lines 26+) is cited for showing that the passive devices may include capacitors, resistors, inductors arranged as filters to suppress power source noises and attain speed-up of the operation of the chip.

U.S. Pat. No. 6,614,110 of record (Col. 4, lines 10+) is cited for showing that a MCM (multi-chip module) is common to comprise integrated circuit chips, passive devices, and a MEMS.

U.S. Pat. No. 6,205,032 of record (Col. 4, lines 32+) is cited for showing that waveguides can be considered as passive devices.

Conclusion

13. Applicant's arguments with respect to claims **281-286** have been fully considered, but they are deemed to be moot in view of the new grounds of rejection.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action because the newly added claims 281-286 raise new issues that would require further consideration and/or search. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan Thai whose telephone number is 571-272-1935. The examiner can normally be reached on 6:30 AM - 5:00 PM, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bradley W. Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2891

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Luan Thai', with a stylized flourish at the end.

Luan Thai

Primary Examiner

Art Unit 2891

October 7, 2005